

## Autothresholding of Noisy Images

### Abstract

The present invention provides to image processing methods that include a  
5 method of selecting an optimal threshold value ( $t_0$ ) for an image comprising the steps  
of: obtaining an image; selecting a test segment of the said image; determining the  
mean feature size ( $S$ ) of features appearing in the test segment at each of a plurality of  
threshold values ( $t$ ), so as to produce mean feature size data ( $S(t)$ ); selecting a relevant  
subset of the mean feature size data ( $S(t)$ ); and determining an optimal threshold value  
10 ( $t_0$ ) as a function of said subset of the mean feature size data. The present invention  
additionally provides methods of thresholding an image to produce a binary image by  
application of the optimal threshold value ( $t_0$ ) determined according to the methods of  
the present invention.

11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50